



Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)

Approved for use through xx/xx/200x. OMB 0651-00xx  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)											
<p>I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents P O Box 1450 Alexandria VA 22313-1450" [37 CFR 1.8(a)]</p> <p>on <u>June 7, 2006</u></p> <p>Signature <u>Tina Maurice</u></p> <p>Typed or printed name <u>Tina Maurice</u></p>		Application Number	Filed										
		10/824,326	April 14, 2004										
		First Named Inventor											
		Annampadu et al.											
Art Unit		Examiner											
2651		Daniel L. Negron											
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <table border="0"><tr><td><input type="checkbox"/> applicant/inventor</td><td><u>Kevin M. Mason</u></td></tr><tr><td><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96)</td><td>Signature <u>Kevin M. Mason</u></td></tr><tr><td><input checked="" type="checkbox"/> attorney or agent of record Registration number <u>36,597</u></td><td>Typed or printed name <u>(203) 255-6560</u></td></tr><tr><td><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34 Registration number if acting under 37 CFR 1.34 _____</td><td>Telephone number <u>June 7, 2006</u></td></tr><tr><td></td><td>Date</td></tr></table> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <p><input type="checkbox"/> *Total of _____ forms are submitted.</p>				<input type="checkbox"/> applicant/inventor	<u>Kevin M. Mason</u>	<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96)	Signature <u>Kevin M. Mason</u>	<input checked="" type="checkbox"/> attorney or agent of record Registration number <u>36,597</u>	Typed or printed name <u>(203) 255-6560</u>	<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34 Registration number if acting under 37 CFR 1.34 _____	Telephone number <u>June 7, 2006</u>		Date
<input type="checkbox"/> applicant/inventor	<u>Kevin M. Mason</u>												
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96)	Signature <u>Kevin M. Mason</u>												
<input checked="" type="checkbox"/> attorney or agent of record Registration number <u>36,597</u>	Typed or printed name <u>(203) 255-6560</u>												
<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34 Registration number if acting under 37 CFR 1.34 _____	Telephone number <u>June 7, 2006</u>												
	Date												

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Annampedu 8-15

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Patent Application**

5 Applicant(s): Annampedu et al.  
Case: 8-15  
Serial No.: 10/824,326  
Filing Date: April 14, 2006  
Group: 2651  
10 Examiner: Daniel L. Negron

I hereby certify that this paper is being deposited on this date with the U.S. Postal Service as first class mail addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Signature: Vine Mauro Date: June 7, 2006

Title: Method and Apparatus for Maximum Likelihood Detection of Data Employing Interpolation with Compensation of Signal Asymmetry

15

MEMORANDUM IN SUPPORT OF  
PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF  
20 Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:  
25

The present invention and prior art have been summarized in Applicants' prior responses.

STATEMENT OF GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

30 Claims 1, 2, 10-12 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ashley et al. (United States Patent Number 6,657,802). Claims 3 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ashley et al. in view of Reed (United States Patent Number 6,549,351). Claims 4, 5, 7, 14, 15, 17 and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ashley et al. in view of Rezzi et al. (United States  
35 Patent Number 6,043,943). The Examiner indicated that claims 6, 8, 9, 16, and 18 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

ARGUMENT

Independent claims 1, 11, and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ashley et al. Regarding claim 11, for example, the Examiner asserts that Ashley et al. disclose an apparatus for detecting data comprising an interpolator (228) adapted to  
5 generate one or more interpolated sample sequences from the data, wherein each interpolated sample sequence has a different corresponding phase relative to the data (col. 3, lines 25-35); and a detector (252) adapted to generate a distance measure between a portion of each interpolated sample sequence and an ideal sample sequence, (and) generate signal asymmetry (215) information for the portion of each sample sequence (col. 4, lines 39-56).

10 Each of the independent claims generally require the generation of a “distance measure between a portion of each interpolated sample sequence and an ideal sample sequence.” In the detailed rejection and Response to Arguments section, the Examiner asserts that the distant metric calculator 252 (FIG. 3) of Ashley et al. generates a distance measure between the sampled sequence generated by the interpolator 228 (FIG. 2) and the ideal sample sequence (citing col. 4,  
15 lines 39-56). The distant metric calculator 252 (FIG. 3) is a portion of the Sync. Detector 234 of FIG. 2. The output of the ITR 228 is the “equalized signal” processed by the distant metric calculator 252.

Thus, the distance metric calculator 252 calculates the distance between the *received sample sequence* and the “ideal sample sequence” expected at the synch. mark (col. 4,  
20 lines 50-52 of Ashley et al.) or more generally, the distance between the sample-by-sample *slicer estimates of the received sample sequence* and the ideal sample sequence. (col. 5, lines 1-5 of Ashley et al.).

The Examiner acknowledges that Ashley et al. do not explicitly show that an ideal sequence corresponds to peaks in the data. In the detailed rejection, the Examiner asserts,  
25 however, that Ashley et al. show that data corresponds to digital pulses. The Examiner further asserts that it is known that digital pulses are converted from analog peaks using analog-to-digital converters (222). Applicants note, however, that digital pulses are converted from analog *signals*, which *may* include one or more peaks, using analog-to-digital converters

The analog-to-digital converter 222 of Ashley et al. is processing the incoming signal, and **not** an ideal sample sequence. See, col. 3, lines 11-16. Further, an analog-to-digital converter merely converts an analog value to a digital code. The analog-to-digital converter, by itself, has no knowledge of the analog *peaks*. Applicants submit that a digital version of analog peaks is not an “ideal sample sequence (that) corresponds to peaks in said data,” as required by each independent claim.

In the Response to Arguments section, the Examiner further asserts that conventional asymmetry compensation circuits adjust a signal to have positive and negative peaks with equal amplitudes and that a sequence passing through a system correspond to peaks. Nonetheless, there is no suggestion in Ashley et al. or elsewhere that the ideal sample sequence *itself* corresponds to peaks in the data.

In addition, while the analog signal generated by the ADC 222 may be processed by the FIR 224 and ITR 228 to generate the equalized signal, the “equalized signal” and “phase estimate signal” processed by the distant metric calculator 252 are not an “ideal sequence correspond(ing) to peaks in the data,” as required by each independent claim.

Independent claims 1, 11, and 19 require wherein the ideal sample sequence *corresponds to peaks in the data*. Thus, Ashley et al. do not disclose or suggest wherein the ideal sample sequence corresponds to peaks in the data, as required by independent claims 1, 11, and 19.

#### Additional Cited References

Reed was also cited by the Examiner for its disclosure of a device for data detection wherein peaks are used to detect RRO marks (i.e. RRO bit) for the purpose of compensating for repeatable run-out (col. 5, lines 24-44). Reed, however, does not disclose or suggest that the ideal sample sequence *corresponds to peaks in the data*.

Rezzi et al. was cited by the Examiner for its disclosure of asymmetry correction. Rezzi et al. does not disclose or suggest an ideal sample sequence *corresponding to peaks in the data*.

Thus, Reed and Rezzi et al. do not disclose or suggest wherein the ideal sample sequence corresponds to peaks in the data, as required by independent claims 1, 11, and 19.

Conclusion

The rejections of the cited claims under sections 102 and 103 in view of Ashley et al. are therefore believed to be improper and should be withdrawn. The remaining rejected dependent claims are believed allowable for at least the reasons identified above with respect to the independent claims.

The attention of the Examiner to this matter is appreciated.

Respectfully,



Date: June 7, 2006

Kevin M. Mason  
Attorney for Applicant(s)  
Reg. No. 36,597  
Ryan, Mason & Lewis, LLP  
1300 Post Road, Suite 205  
Fairfield, CT 06824  
(203) 255-6560